

FIG. 1

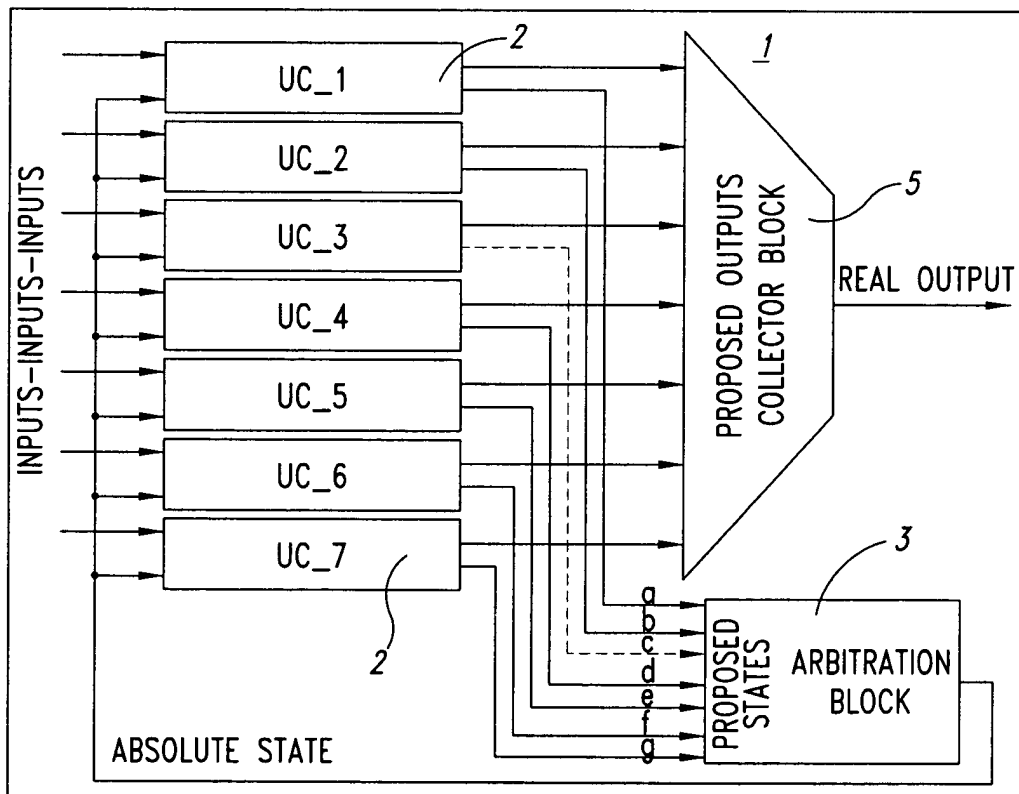


FIG. 2

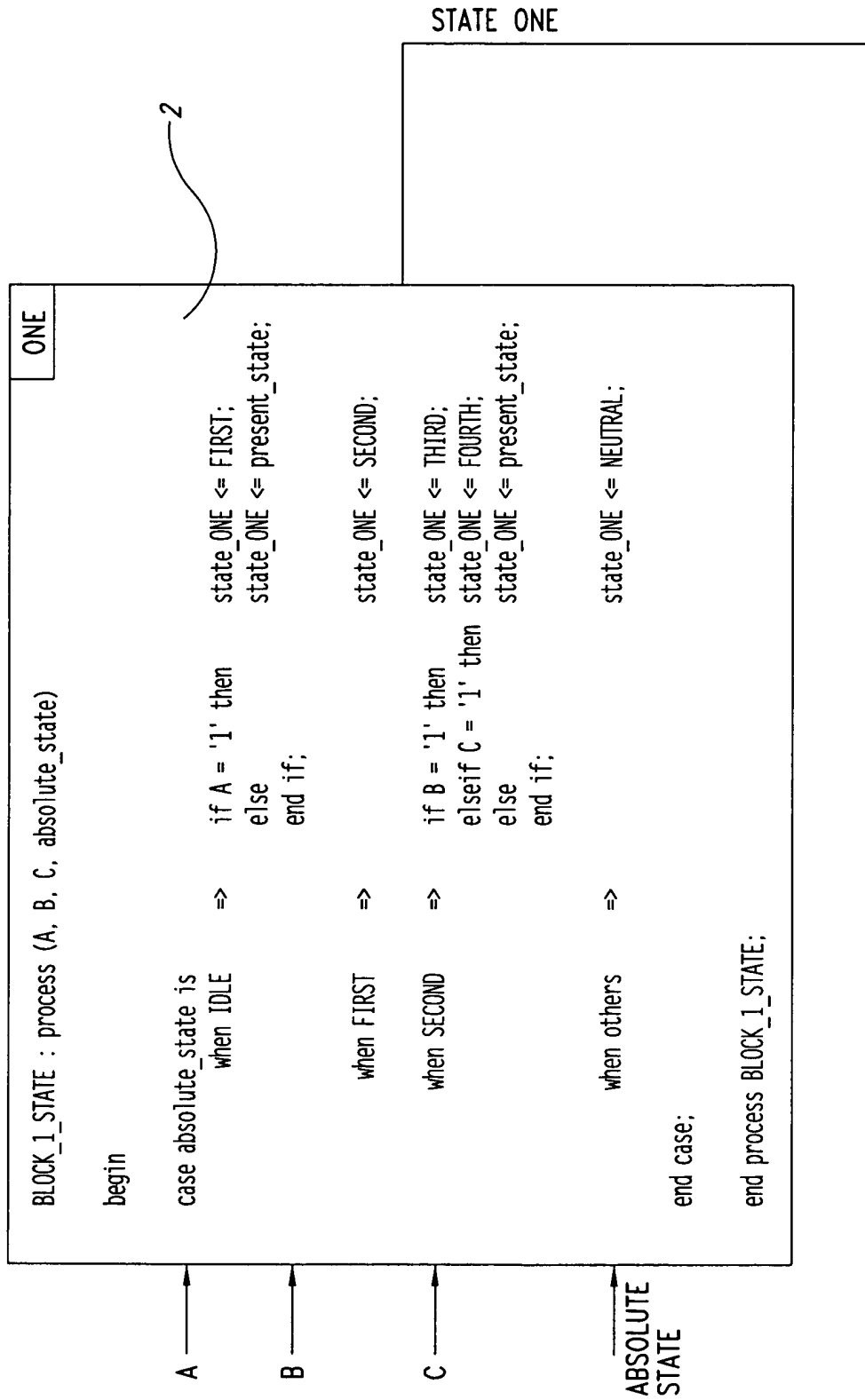


FIG. 3A

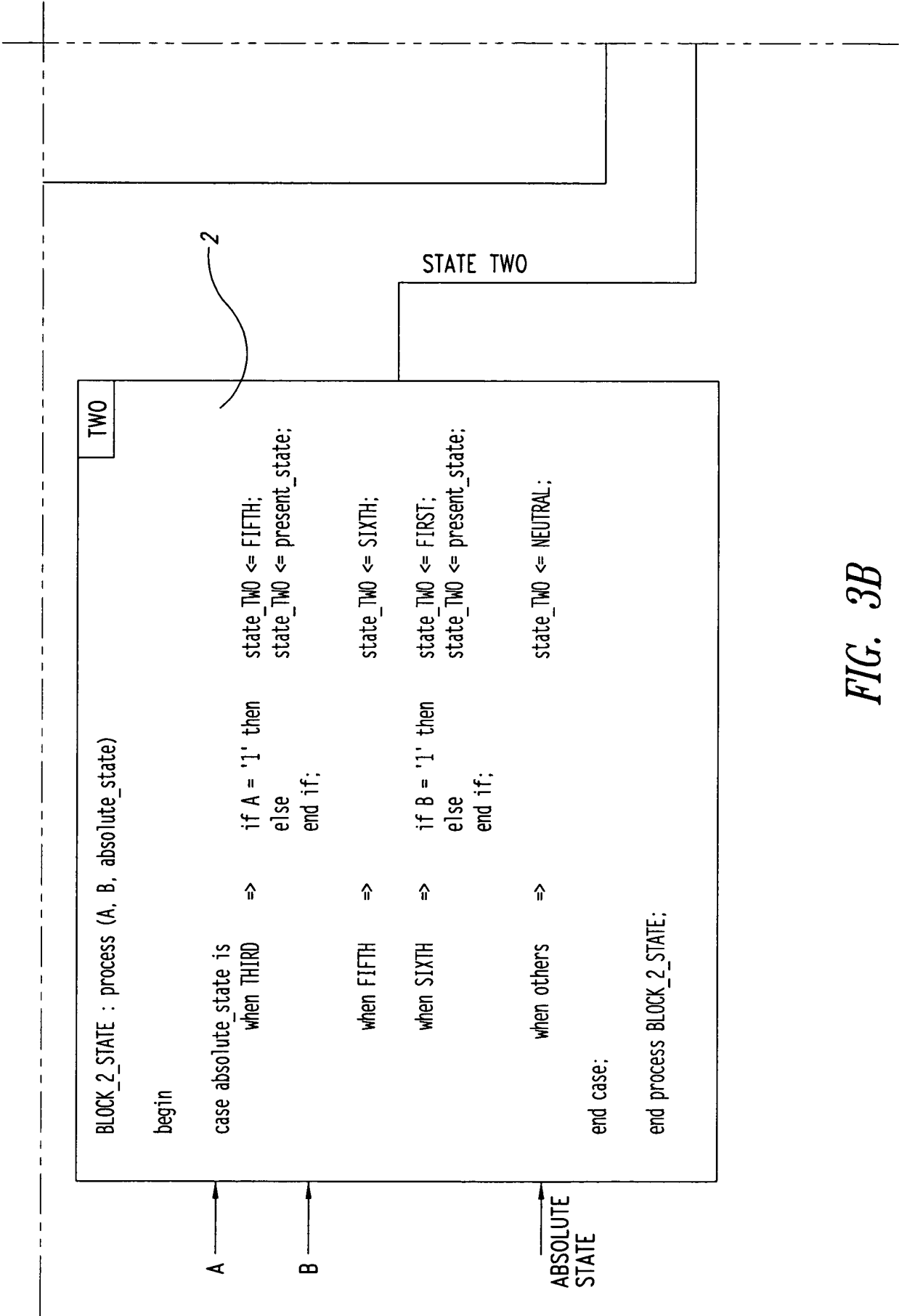


FIG. 3B

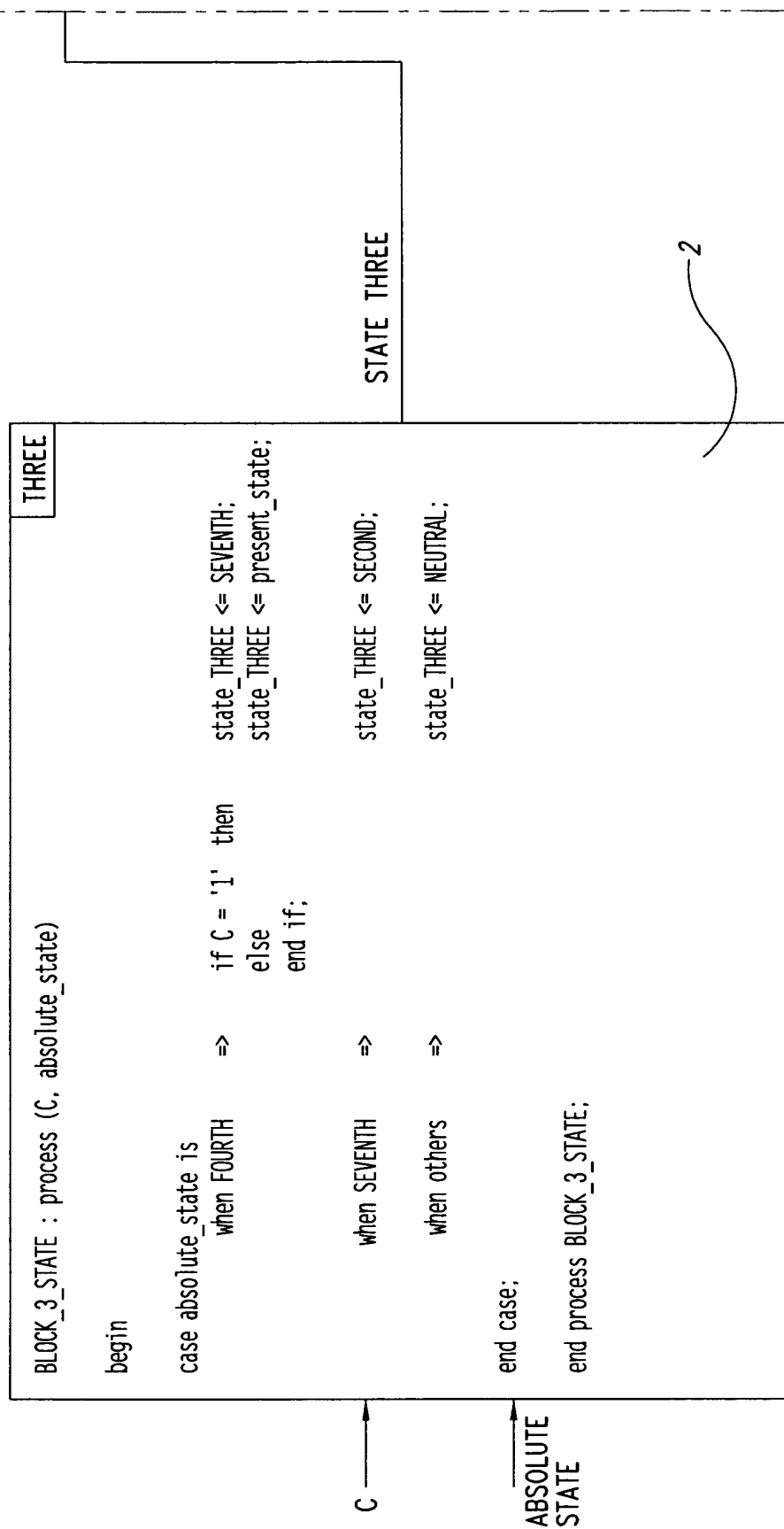


FIG. 3C

```
-----uses the package-----  
library CU_STATES  
use STATES_CU.LISTS_CU.all  
-----  
  
signal future_state : string;  
  
_*****_  
- Package states of the Control Unit  
_*****_  
  
package lists_CU is  
type string is  
  
(NEUTRAL,  
  
-+++++BLOCK_1_STATE+++++  
  
    IDLE,    FIRST,  SECOND  
  
-+++++BLOCK_2_STATE+++++  
  
    THIRD,  FIFTH,  SIXTH  
  
-+++++BLOCK_3_STATE+++++  
  
    FOURTH, SEVENTH );  
  
end lists_CU;
```

The diagram shows a rectangular box containing code. A curved arrow labeled '6' points to the first section of code (the library and use statements). Another curved arrow labeled '2' points to the 'BLOCK_1_STATE' section of the code.

FIG. 3D

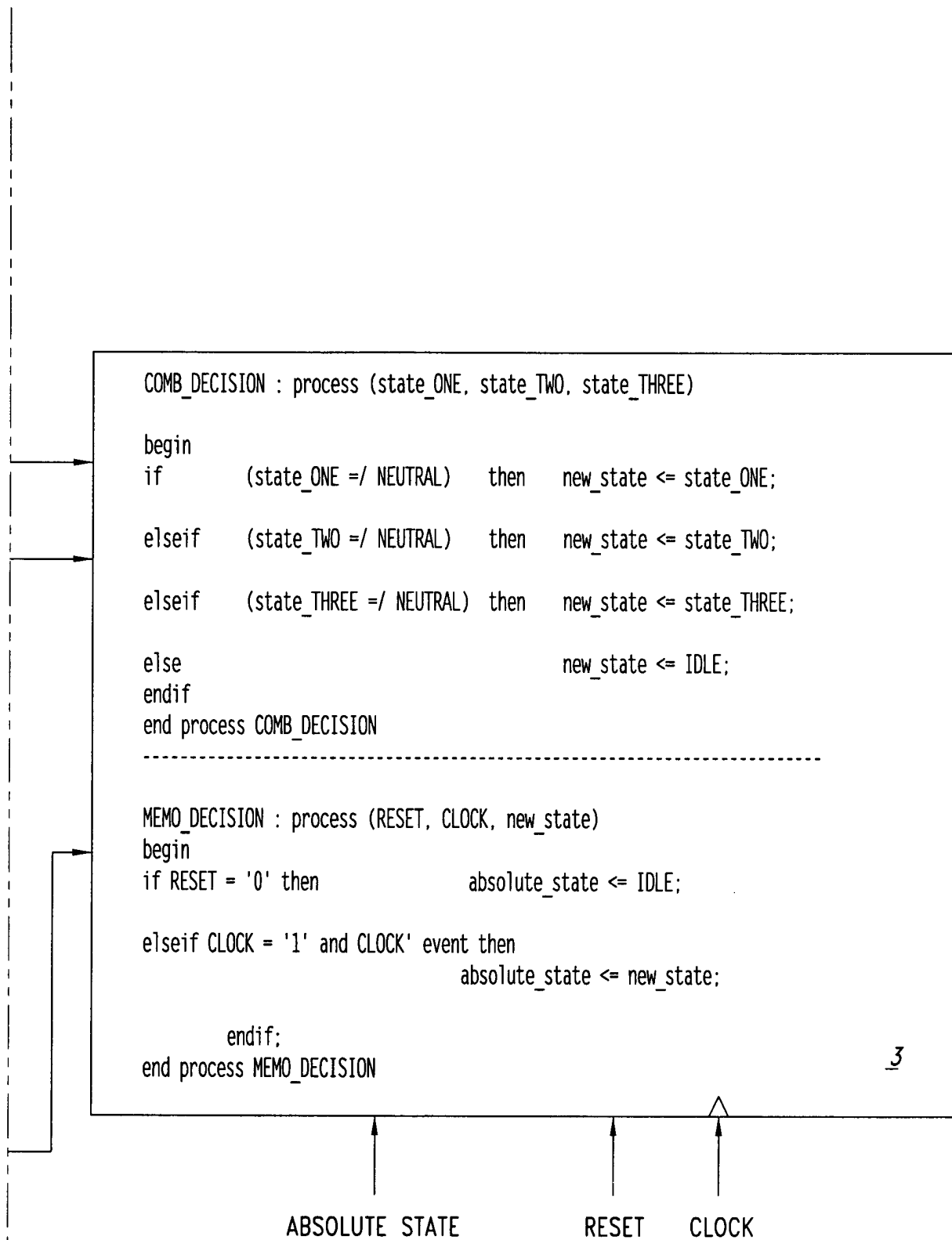


FIG. 3E

FIG. 3A

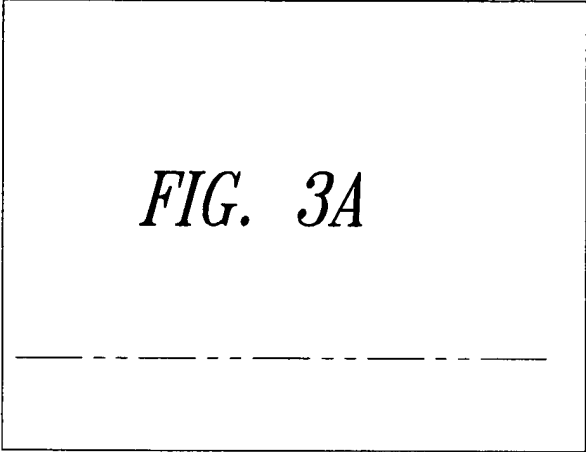


FIG. 3D

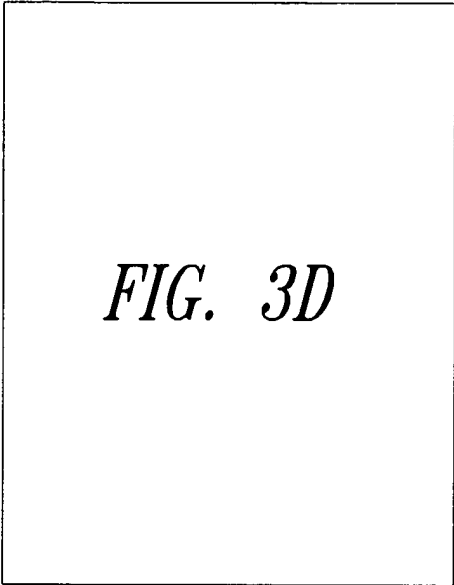


FIG. 3B

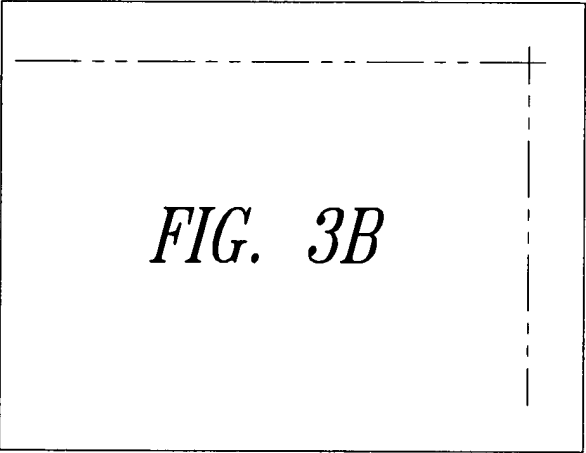


FIG. 3E

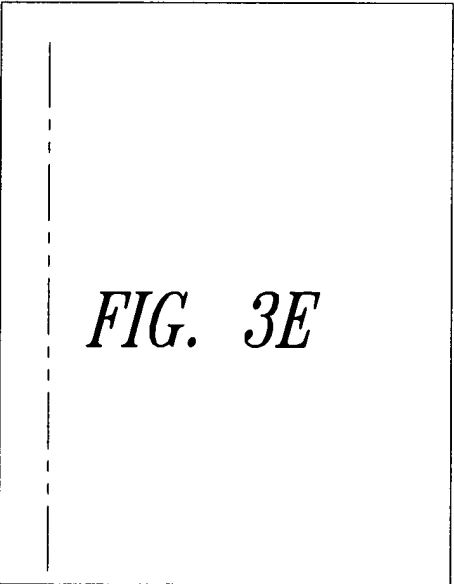


FIG. 3C

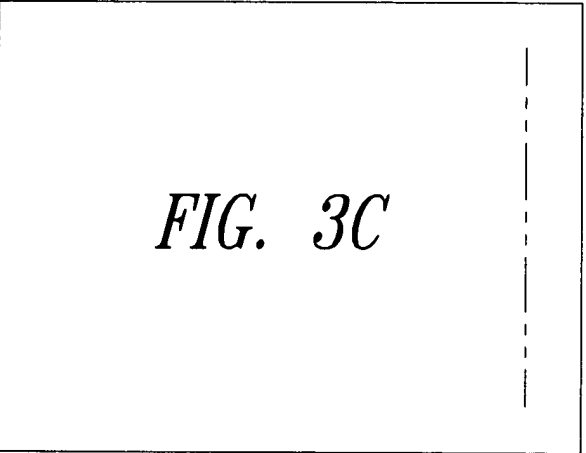


FIG. 3F

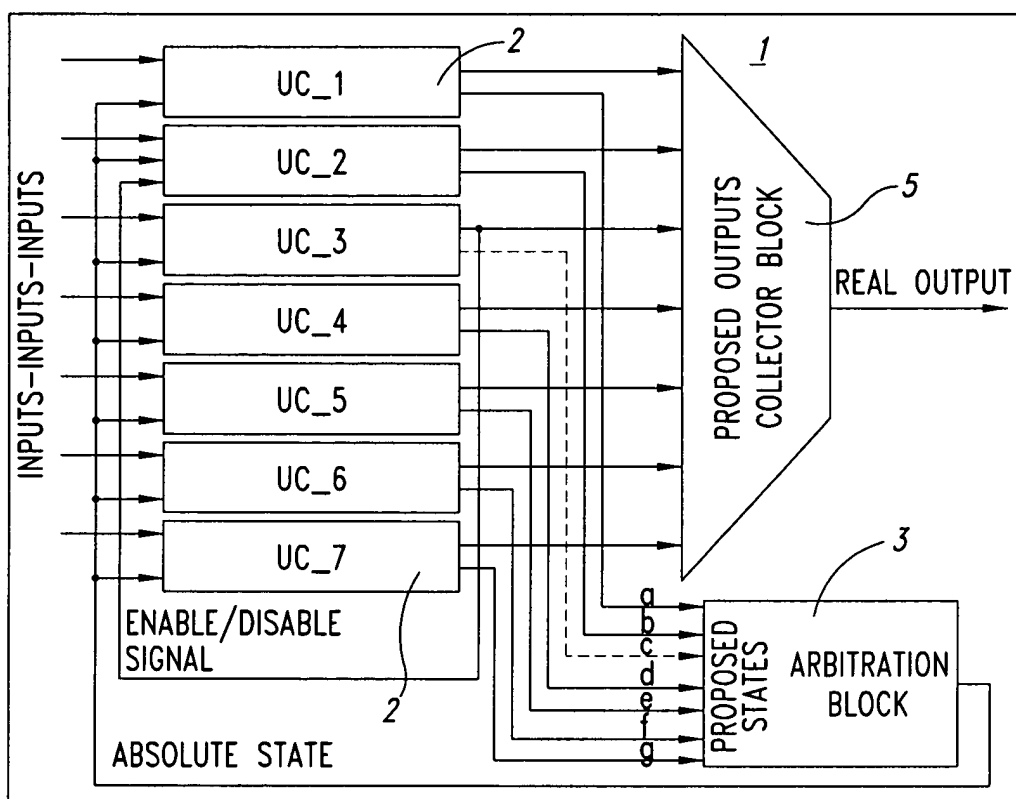


FIG. 3G

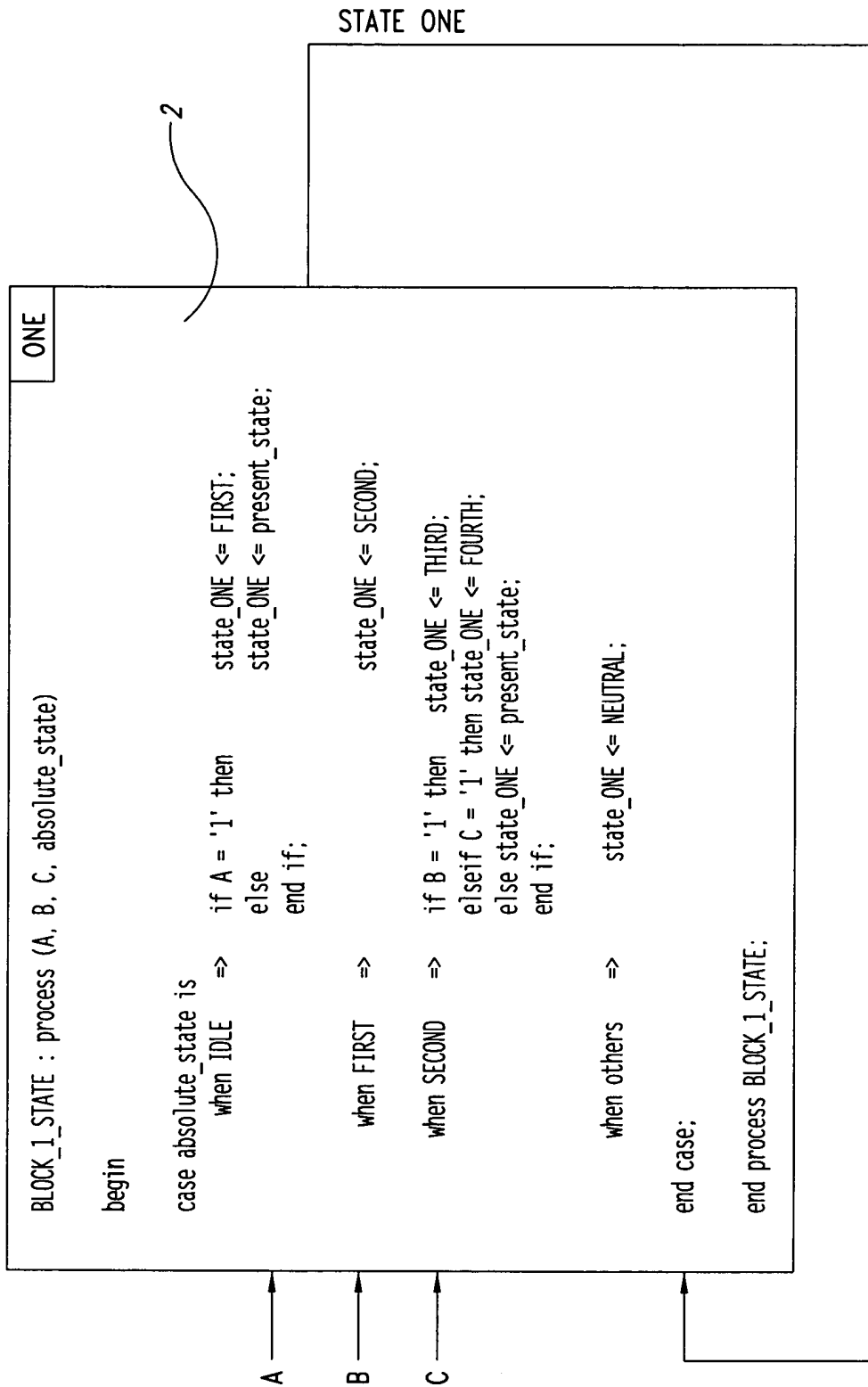
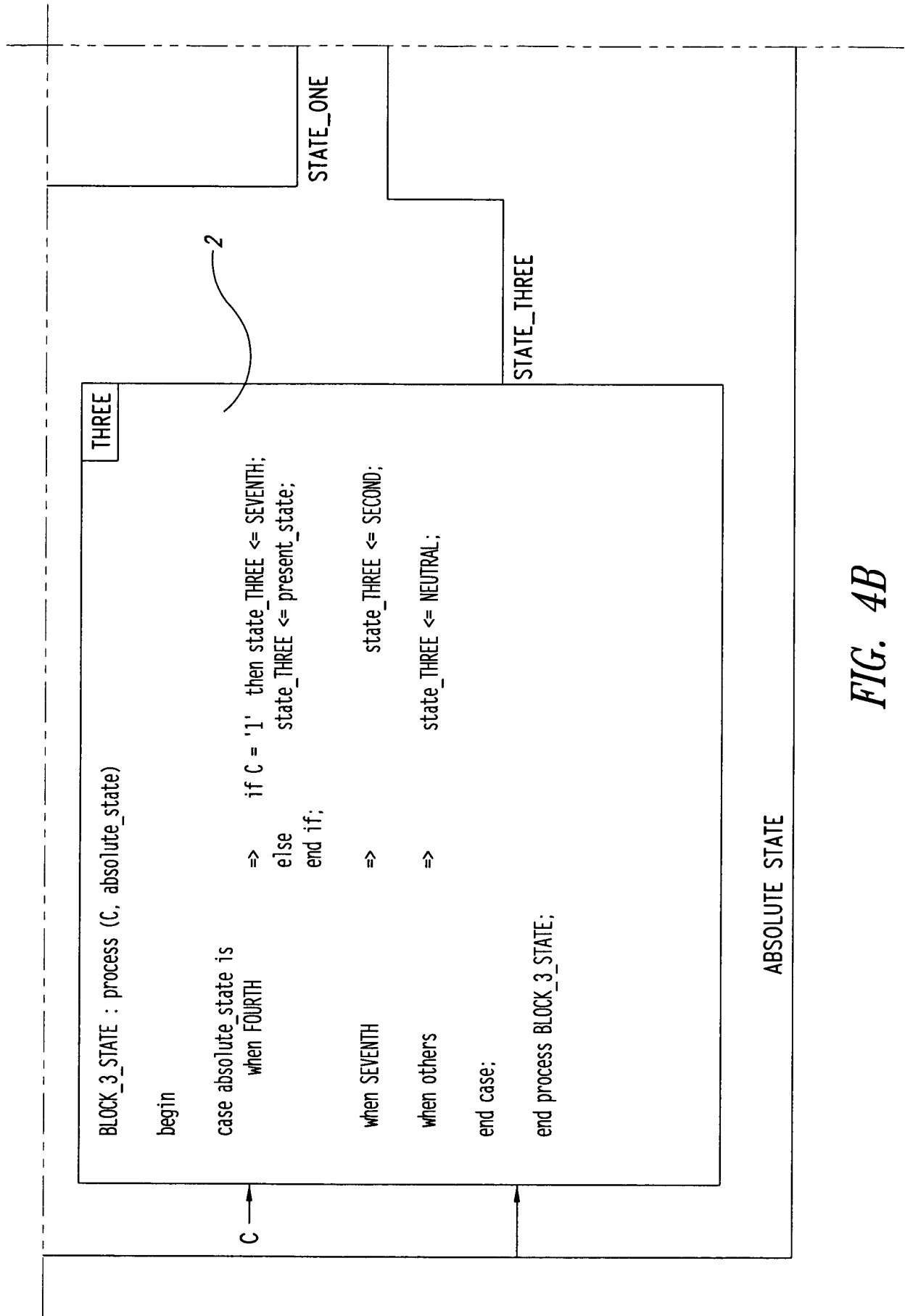


FIG. 4A



```
-----uses the package-----  
library CU_STATES  
use STATES_CU.LISTS_CU.all  
-----  
  
signal future_state : string;  
  
--*****  
-- Package states of the Control Unit  
--*****  
  
package lists_CU is  
type string is  
  
(NEUTRAL,  
  
--++++++BLOCK_1_STATE++++++  
  
    IDLE,    FIRST,    SECOND  
  
--++++++BLOCK_2_STATE++++++  
  
--++++++BLOCK_3_STATE++++++  
  
    FOURTH,    SEVENTH );  
  
end lists_CU;
```

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FIG. 4C

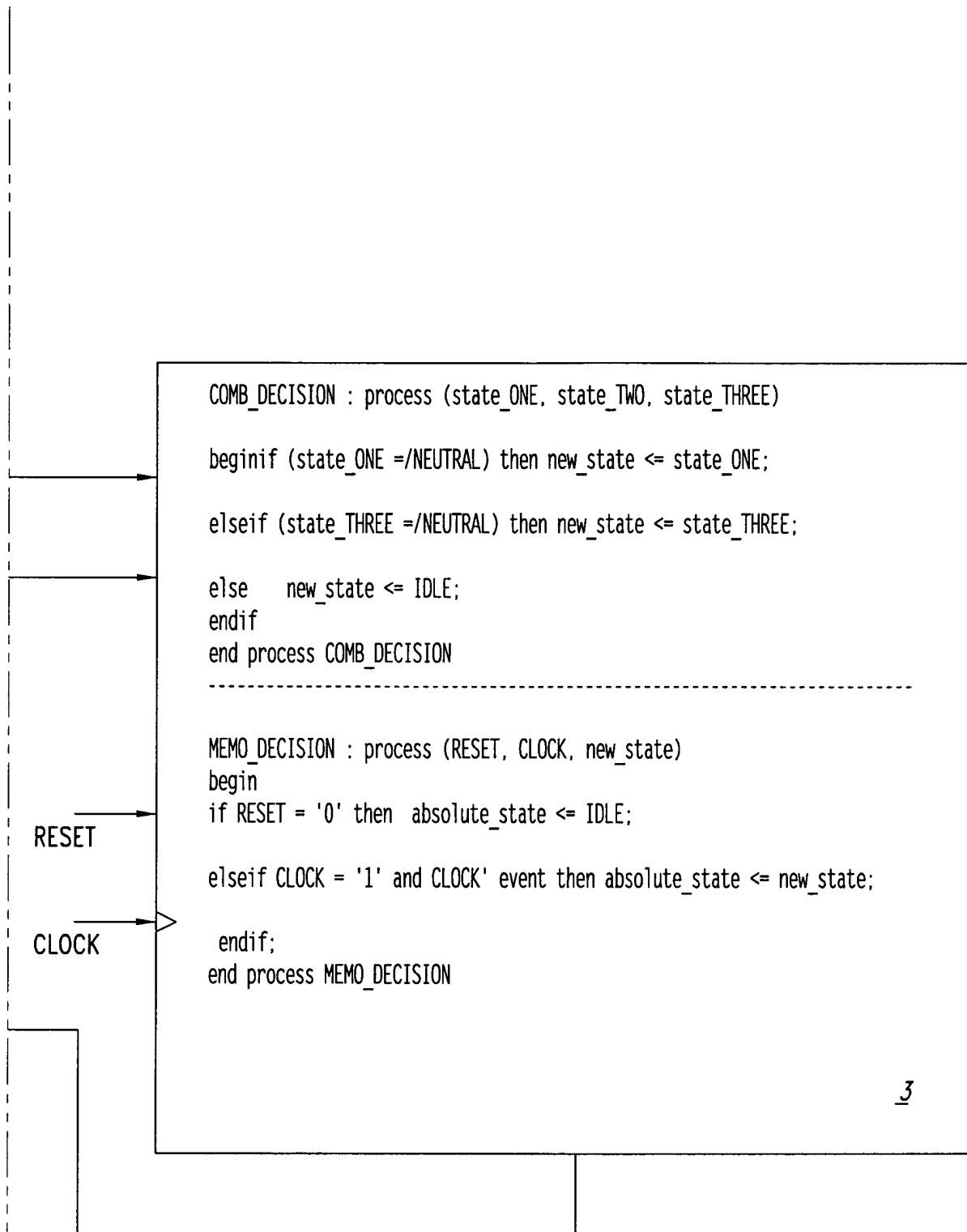


FIG. 4D

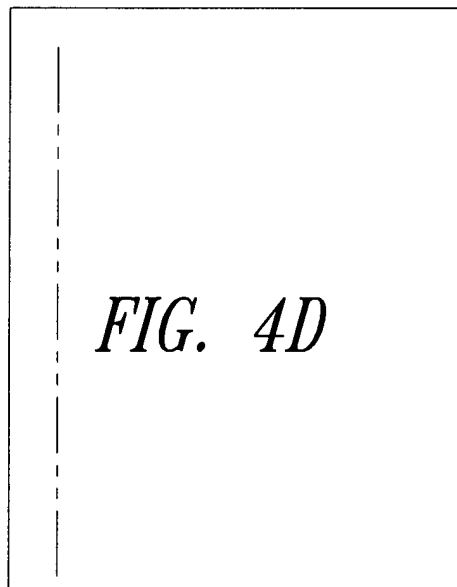
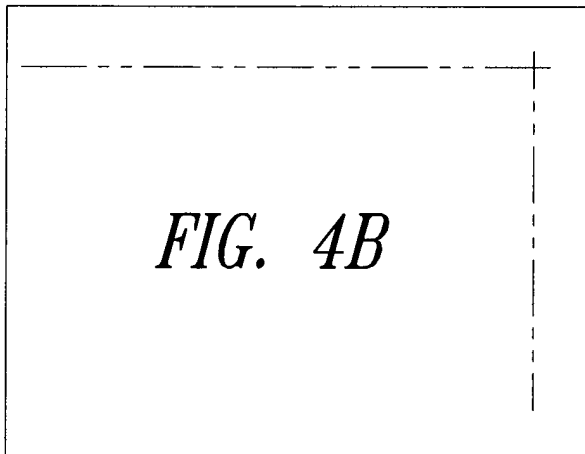
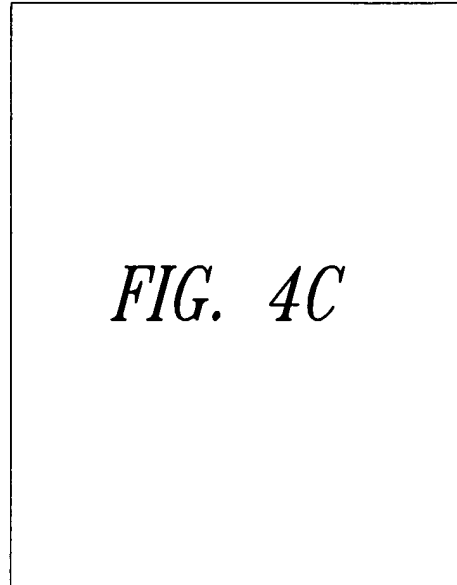
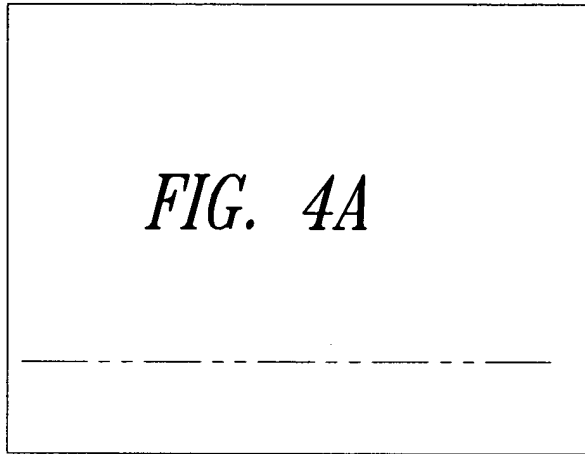


FIG. 4E

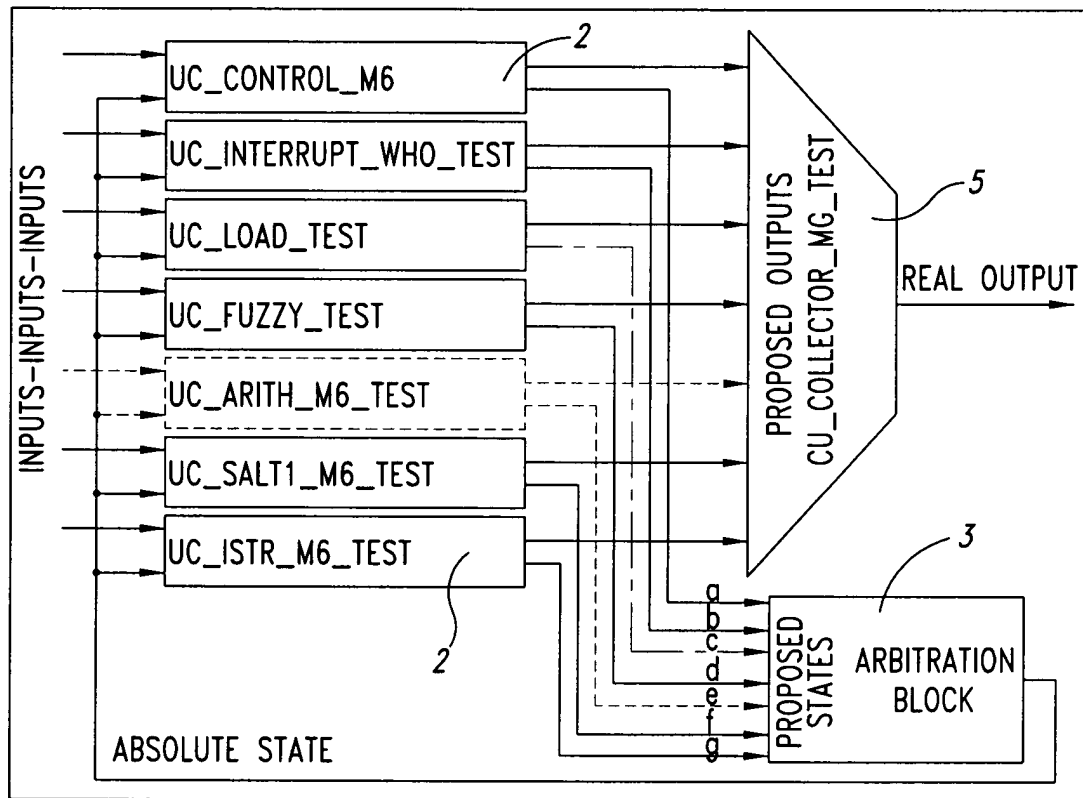


FIG. 5

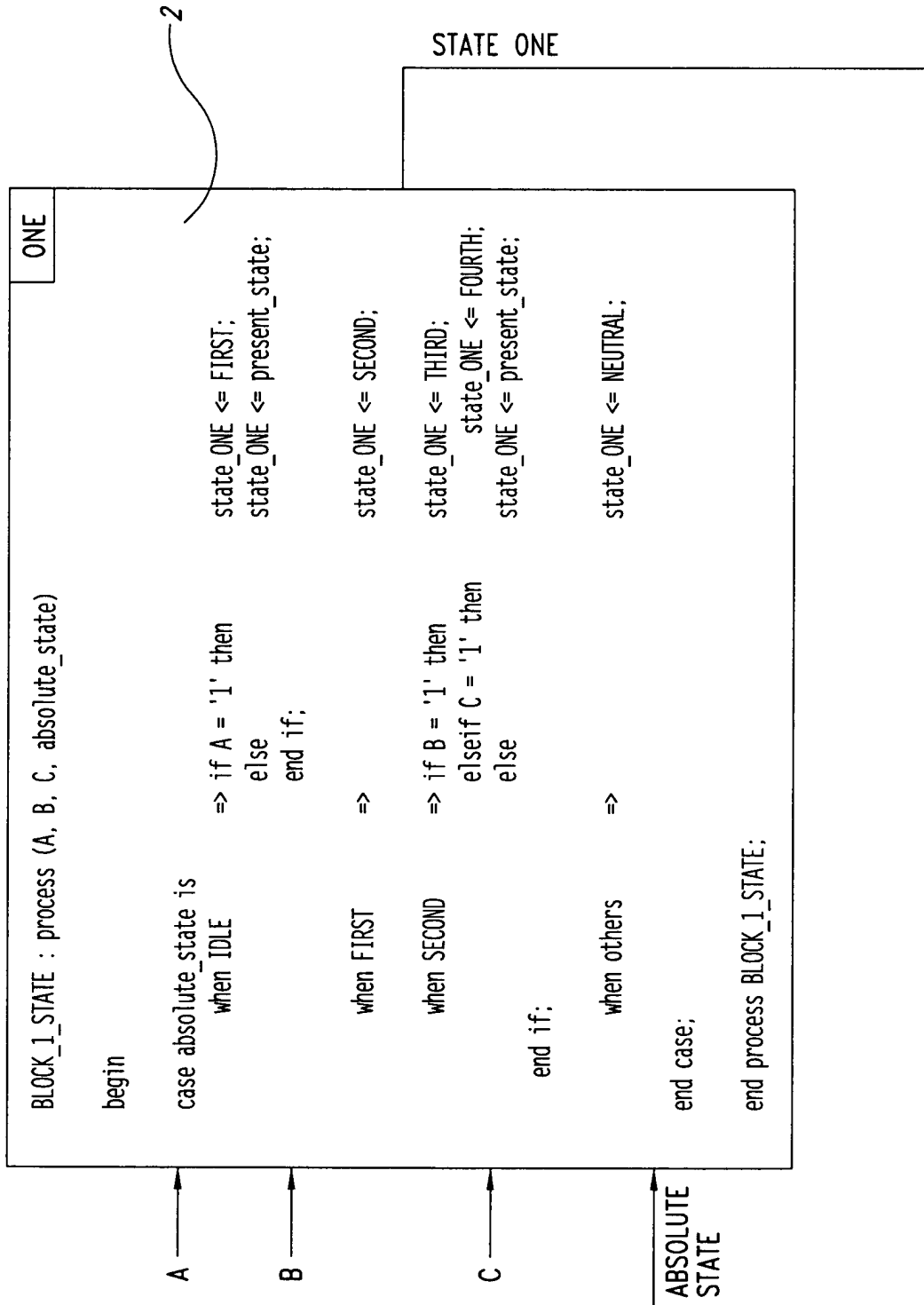
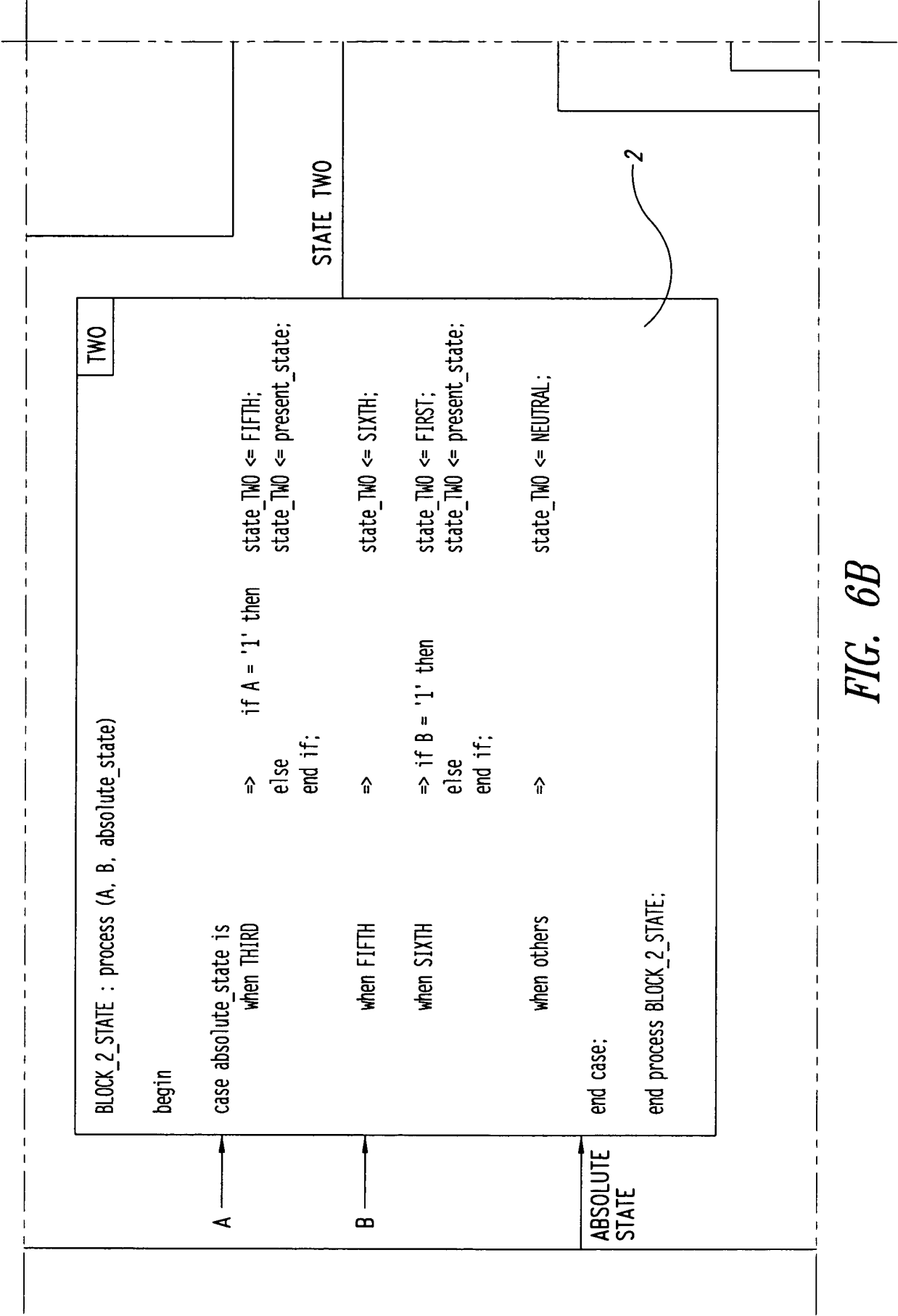


FIG. 6A



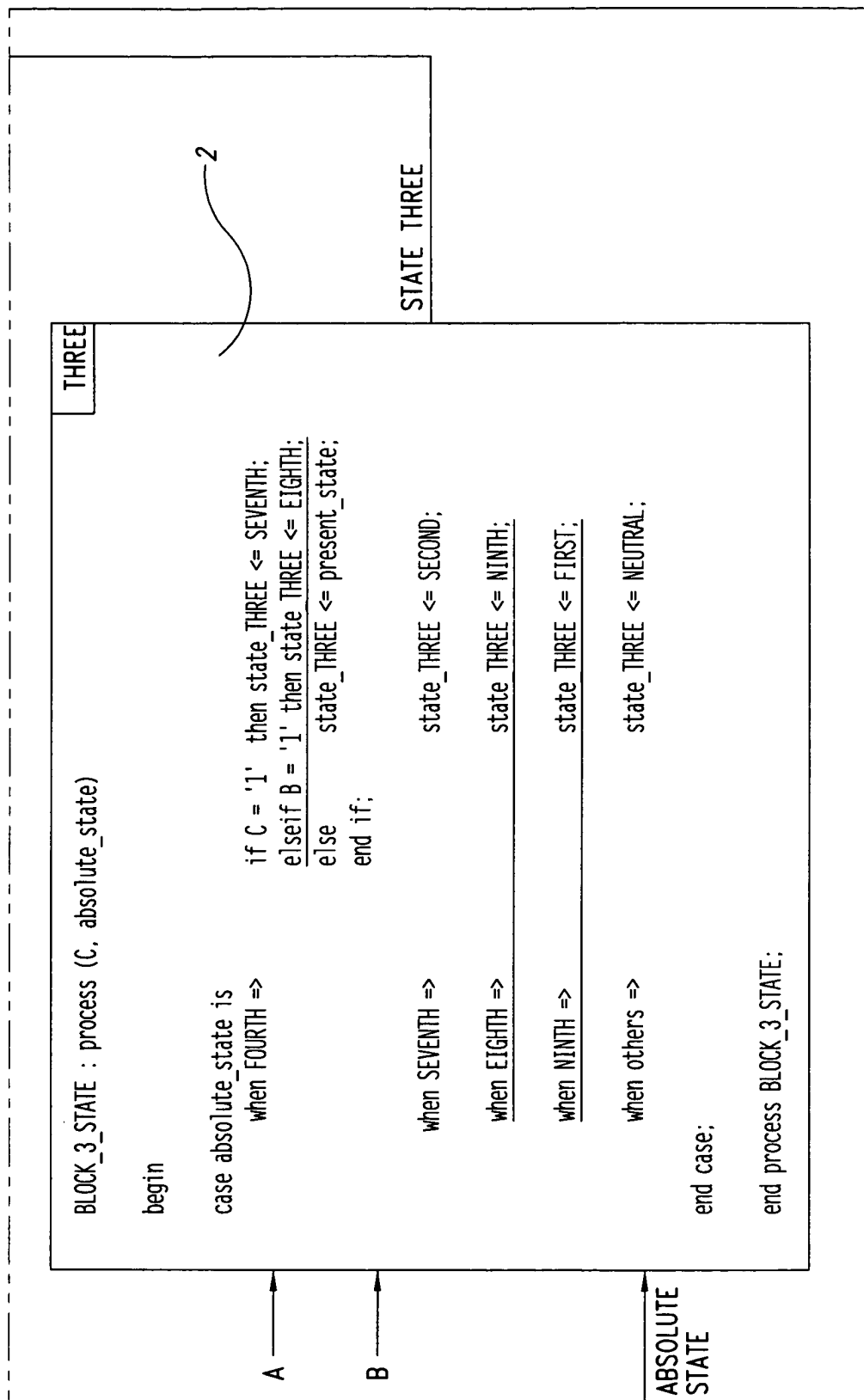


FIG. 6C

```
-----uses the package-----  
library CU_STATES  
use STATES_CU.LISTS_CU.all  
-----  
  
signal future_state : string;  
  
--*****  
-- Package states of the Control Unit  
--*****  
  
package lists_CU is  
type string is  
  
(NEUTRAL,  
  
--+++++BLOCK_1_STATE+++++  
  
  IDLE,  FIRST,  SECOND  
  
--+++++BLOCK_2_STATE+++++  
  
  THIRD, FIFTH, SIXTH  
  
--+++++BLOCK_3_STATE+++++  
  
  FOURTH, SEVENTH, EIGHTH, NINTH );  
  
end lists_CU;
```

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FIG. 6D

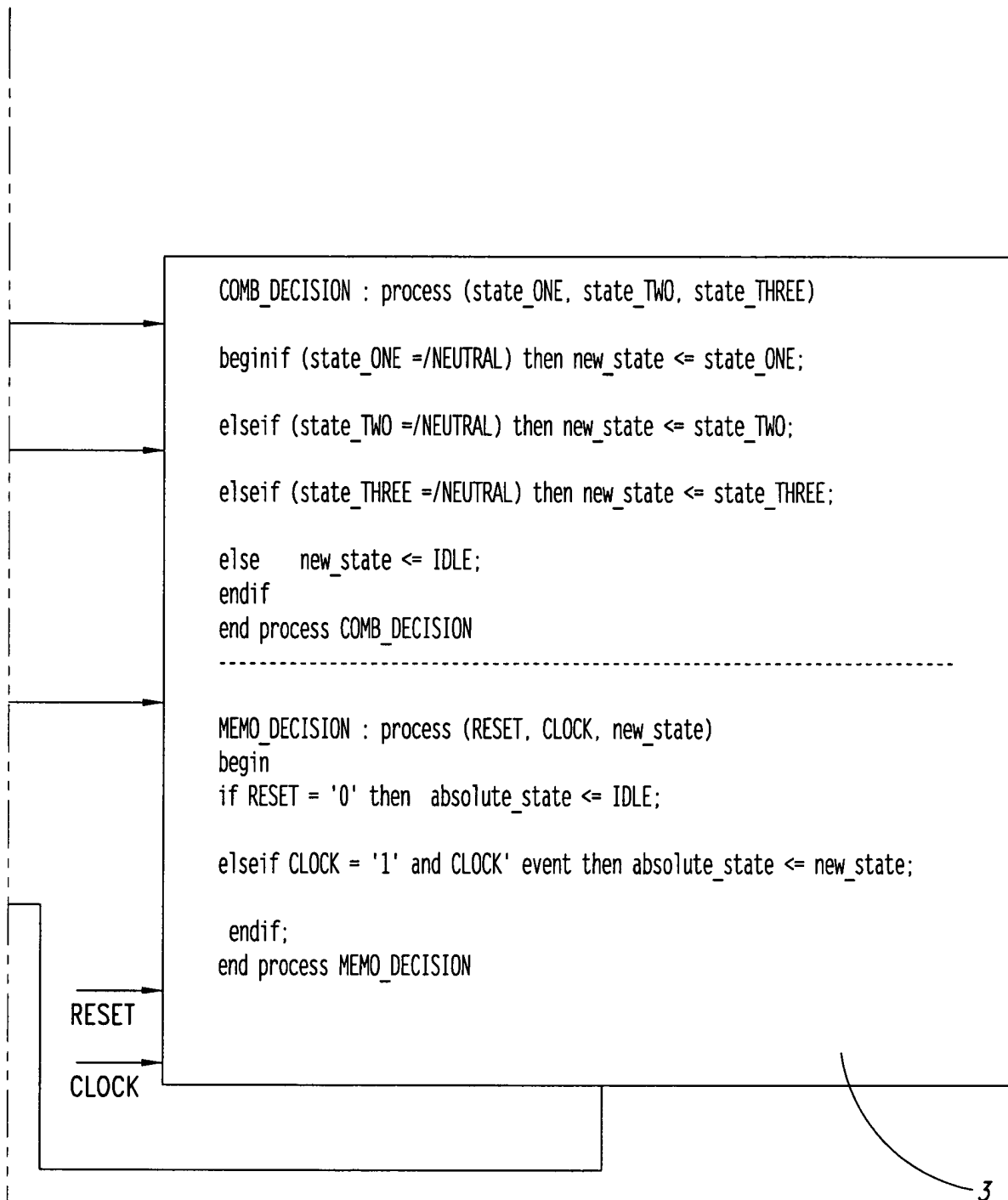


FIG. 6E

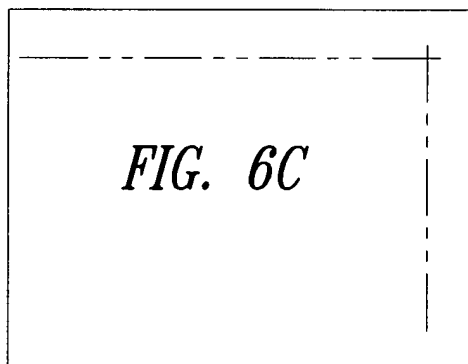
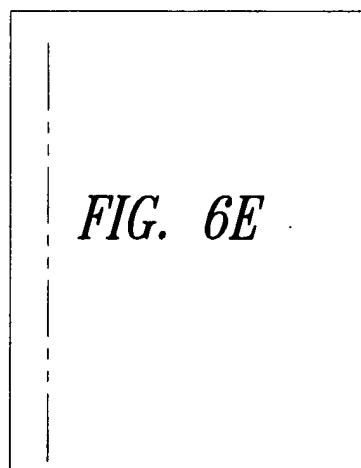
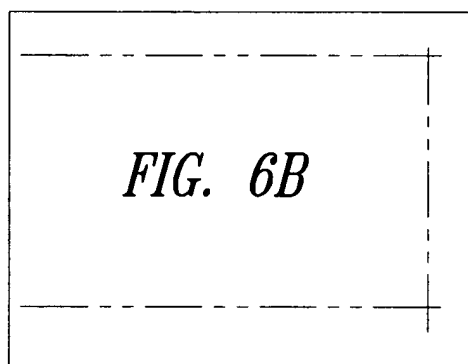
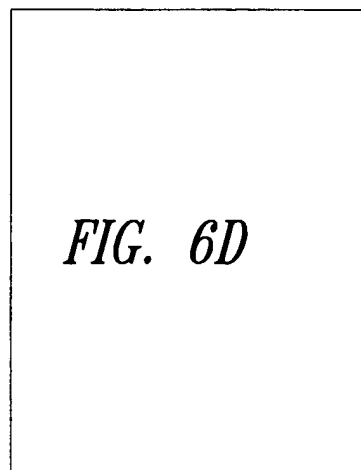
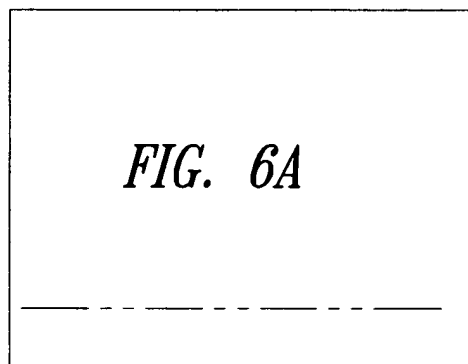


FIG. 6F

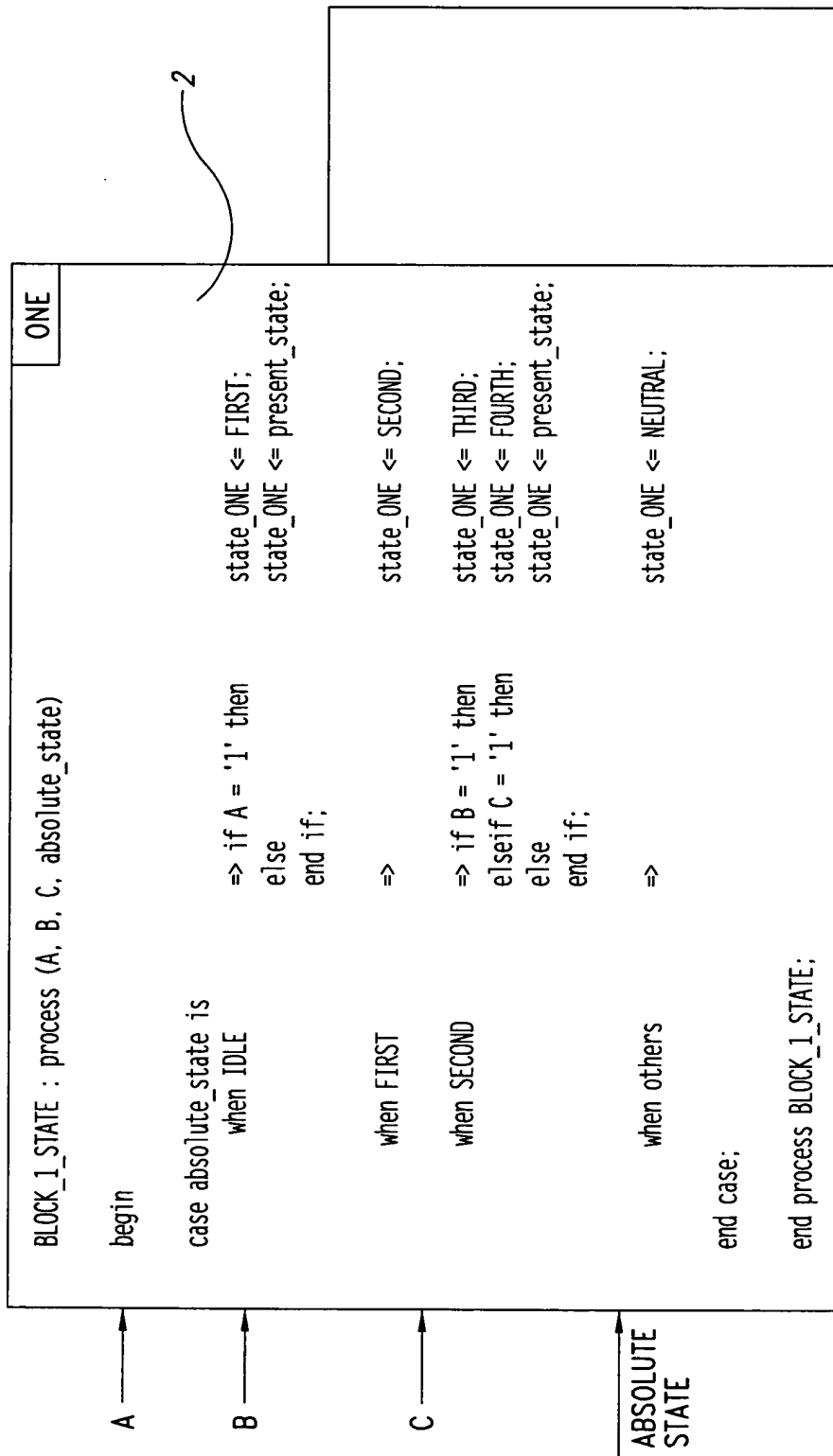
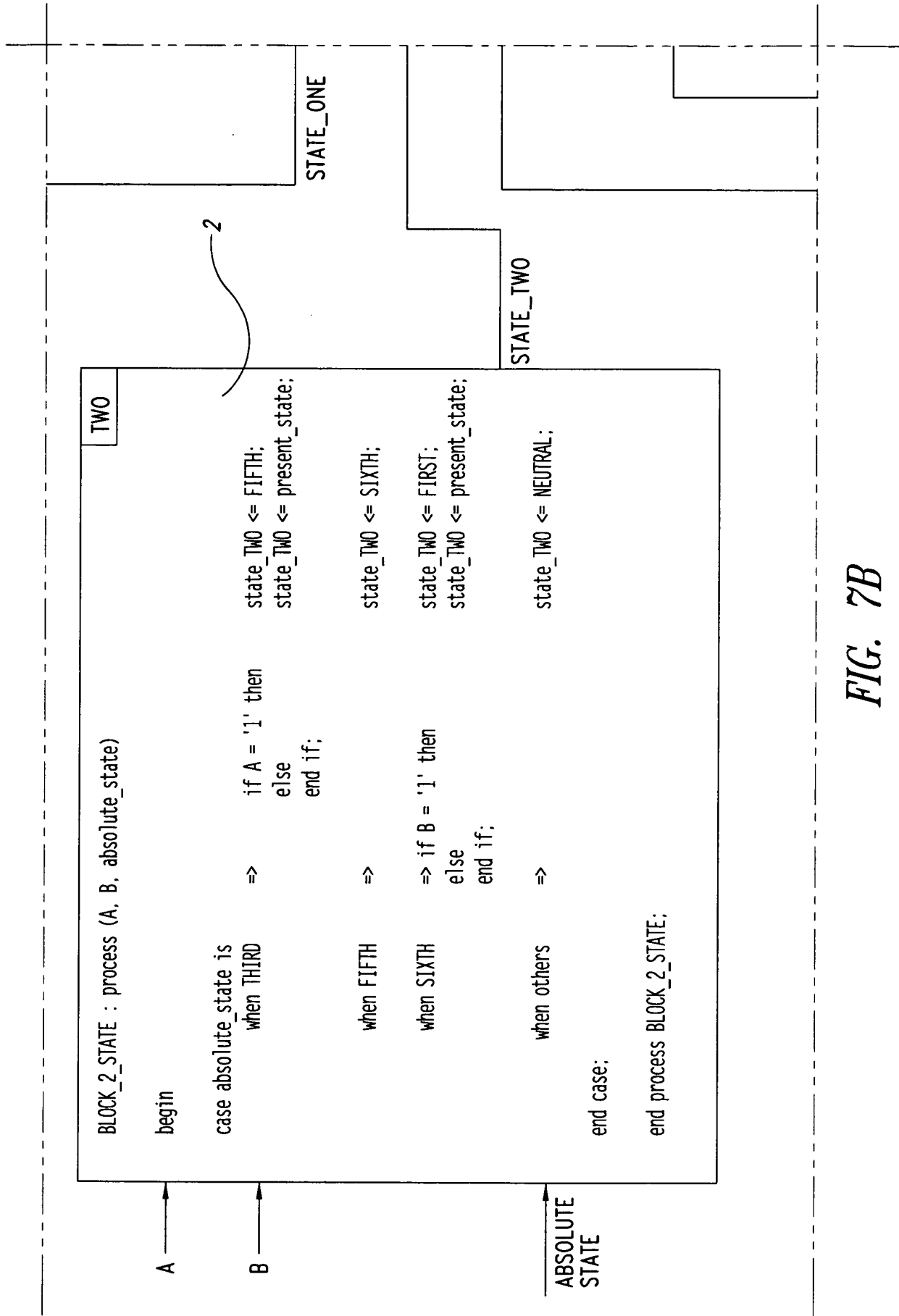


FIG. 7A



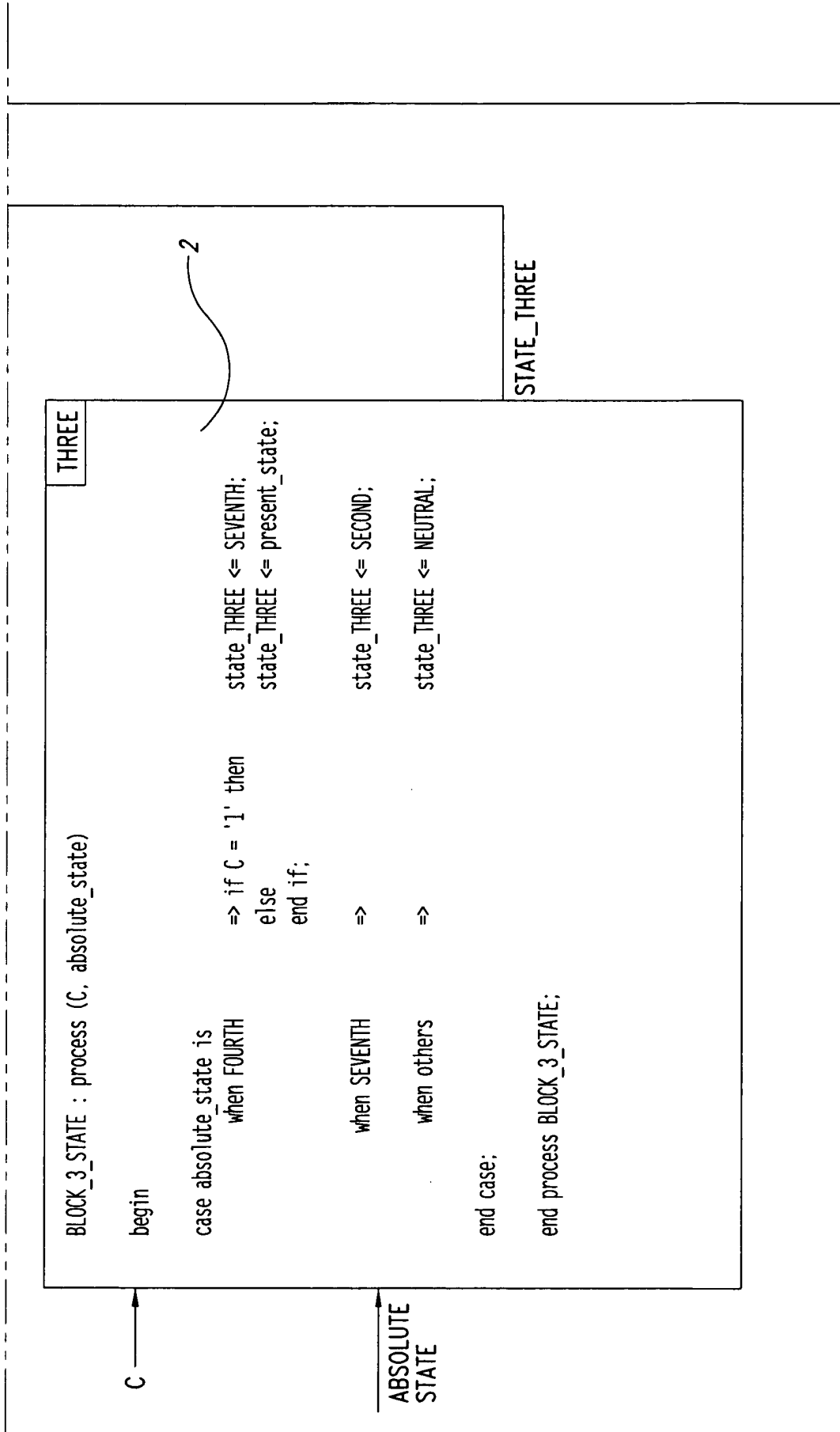


FIG. 7C

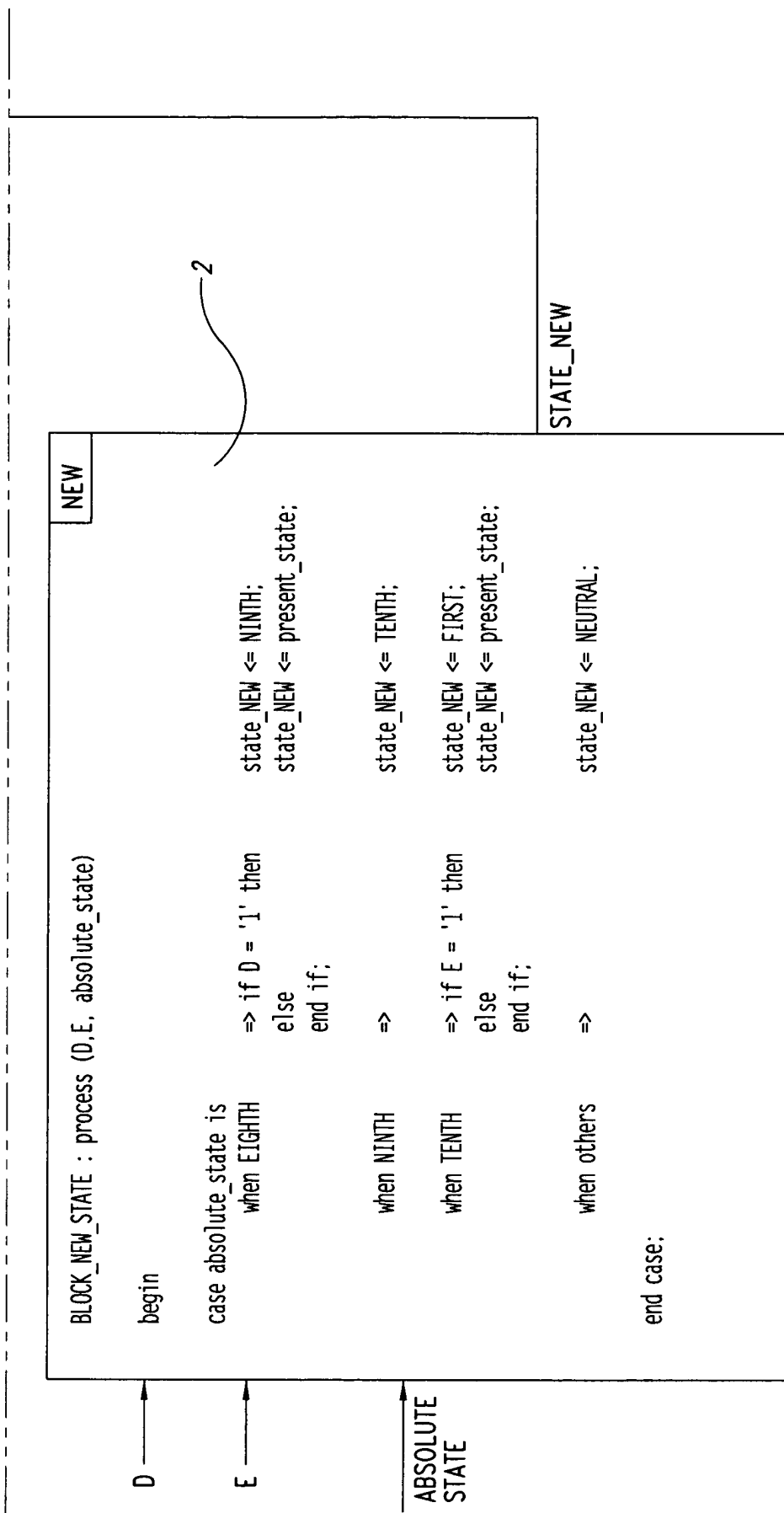
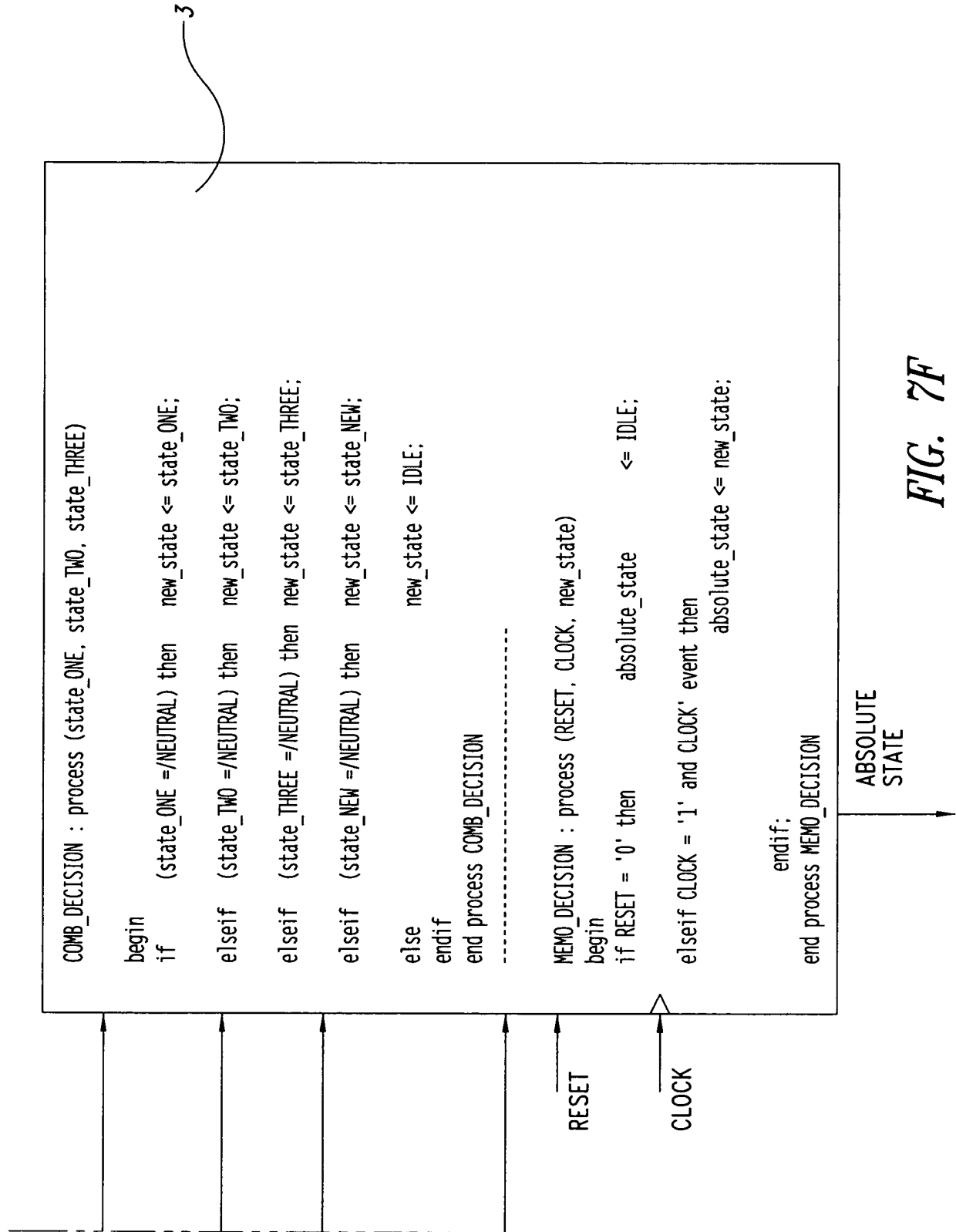


FIG. 7D


```
-----uses the package-----  
library CU_STATES  
use STATES_CU.LISTS_CU.all  
-----  
  
signal future_state : string;  
  
--*****  
-- Package states of the Control Unit  
--*****  
  
package lists_CU is  
type string is  
  
(NEUTRAL,  
  
--+++++BLOCK_1_STATE+++++  
  
    IDLE,    FIRST,    SECOND  
  
--+++++BLOCK_2_STATE+++++  
  
    THIRD, FIFTH, SIXTH  
  
--+++++BLOCK_3_STATE+++++  
  
    FOURTH,    SEVENTH,  
  
--+++++BLOCK_NEW_STATE+++++  
  
    EIGHTH,    NINTH,    TENTH );  
  
end lists_CU;
```

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FIG. 7E



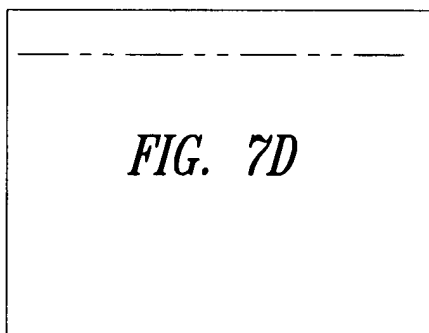
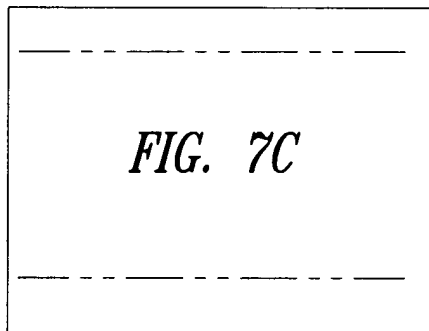
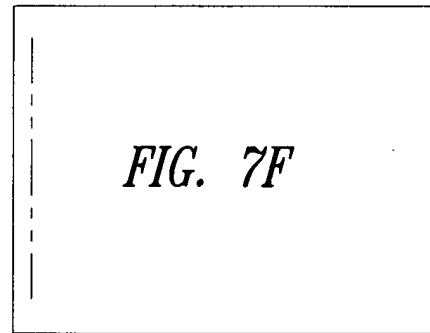
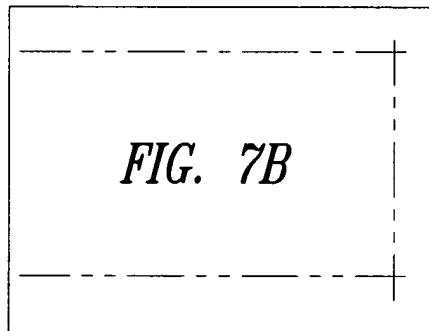
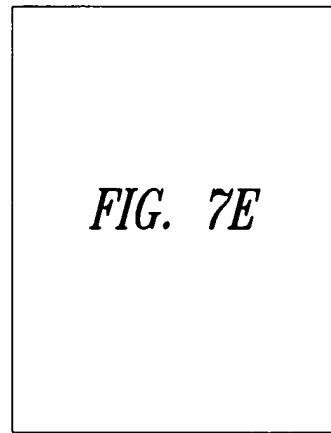
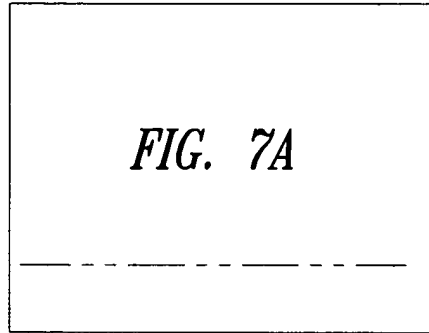


FIG. 7G

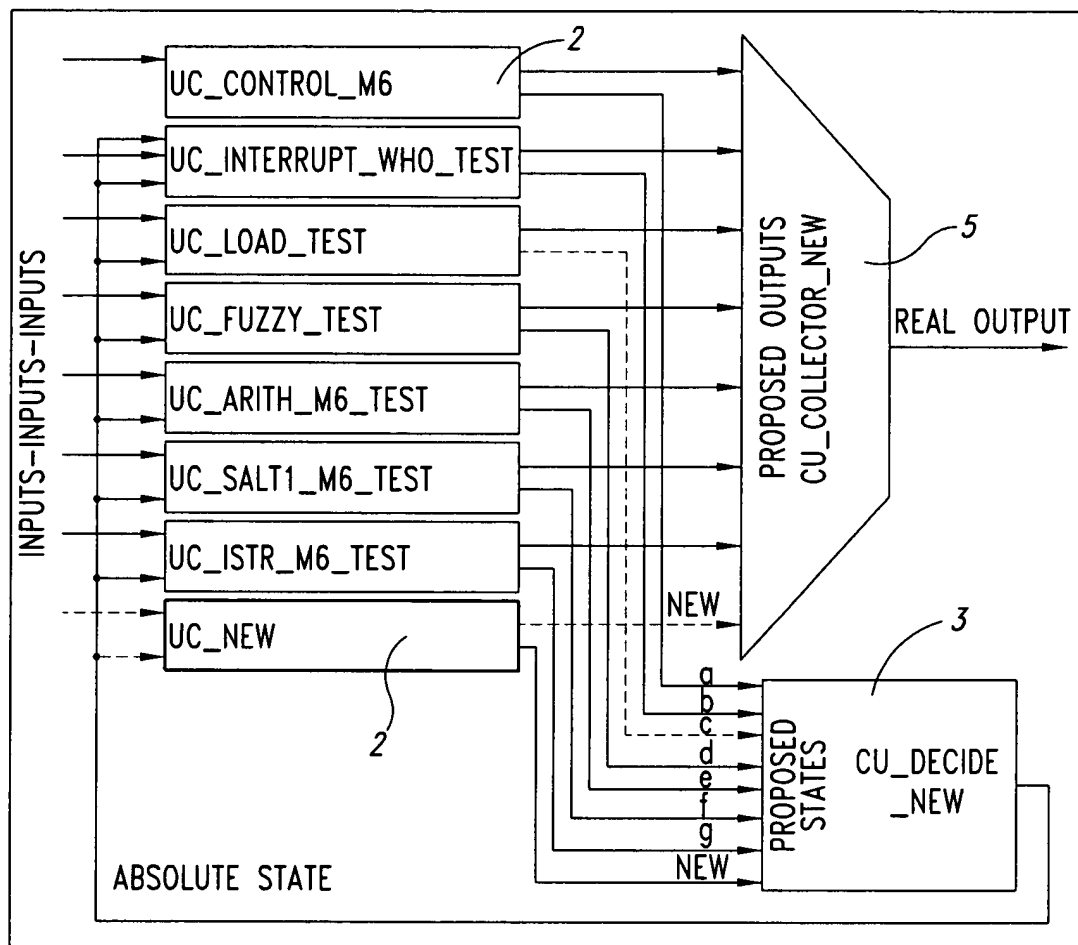


FIG. 8